

69. (Once amended) A cell containing the vector construct of [any one of claims 58-62] either claim 58 or 59.

76. (Once amended) A method for making a host cell, comprising introducing the construct of [any one of claims 58-62] either claim 58 or 59 into a cell.

77. (Once amended) A method for producing an expression product of an endogenous cellular gene or portion thereof comprising:

- (a) introducing the construct of [any one of claims 58-62 into a genome-containing] either claim 58 or 59 into a cell;
- (b) integrating said construct into the genome of said cell by non-homologous recombination; and
- (c) over-expressing said endogenous gene in said cell.

81. (Once amended) A cell library comprising a collection of cells transformed with the construct of [any one of claims 58-62] claim 58 or 59, wherein said construct is integrated into the genomes of said cells by non-homologous recombination.

89. (Once amended) The method of claim 87 or 232, wherein said vector further comprises a splice donor site operably linked to said transcriptional regulatory sequence.

99. (Once amended) The method of any one of claims [83,] 85-87, 89 and 98, wherein said transcriptional regulatory sequence is a promoter.

104. (Once amended) The method of any one of claims [83,] 85-87, 89 and 98, further comprising introducing double strand breaks into the genomic DNA of said cell prior to or simultaneously with integration of said vector.

107. (Once amended) A gene expression product produced by the method of any one of claims [83,] 85-87, 89 and 98.

108. (Once amended) The method of any one of claims [83,] 85-87, 89 and 98, wherein said vector construct is linear.

118. (Once amended) An isolated cell comprising in its genome an inserted genetic construct, said genetic construct comprising an amplifiable marker and a transcriptional regulatory sequence, wherein said construct is inserted into a gene or an upstream region of a gene and activates the expression of said gene, and wherein said gene and upstream region of said gene have no nucleotide sequence homology required for said insertion to said genetic construct.

128. (Once amended) The method of any one of claims 80, [83,] 85-87, 89, 98, 109-111 and 113, wherein said endogenous gene encodes a transmembrane protein.

129. (Once amended) The method of [any one of claims 116, 124 and 126] claim 116, wherein said gene encodes a cellular transmembrane protein.

159. (Once amended) The vector of any one of claims [1, 5-7, 10,] 58, 59, [62, 138, 145, 149, 151, 154,] and 157 [and 158], said vector further comprising one or more transposition signals.

161. (Once amended) The vector of any one of claims [1, 5-7, 10,] 58, 59, [62, 138, 145, 149, 151, 154,] and 157 [and 158], said vector further comprising one or more viral origins of replication.

162. (Once amended) The vector of any one of claims [1, 5-7, 10,] 58, 59, [62, 138, 145, 149, 151, 154,] and 157 [and 158], said vector further comprising one or more viral replication factor genes.

165. (Once amended) The vector of any one of claims [1, 5-7, 10,] 58, 59, [62, 138, 145, 149, 151, 154,] and 157 [and 158], said vector further comprising genomic DNA.

166. (Once amended) A host cell comprising the vector of any one of claims 58, 59, [62, 138, 145, 149, 151, 154,] and 157 [and 158].

173. (Once amended) The host cell of any one of claims [167-171] 167 and 169-171, wherein said host cell is an isolated cell.

174. (Once amended) A library of cells comprising the vector of any one of claims [1, 5-7, 10,] 58, 59, [62, 138, 145, 149, 151, 154,] and 157 [and 158].

180. (Once amended) A method for activation of an endogenous gene in a cell comprising:

- (a) transfecting a genome-containing cell with the vector of any one of claims [1, 5-7, 10,] 58, 59, [62, 138, 145, 149, 151, 154,] and 157 [and 158]; and
- (b) culturing said cell under conditions suitable for non-homologous integration of said vector into the genome of said cell, wherein said integration results in the activation of an endogenous gene in the genome of said cell.

181. (Once amended) A method for identifying a gene comprising:
- (a) transfecting a plurality of genome-containing cells with the vector of any one of claims [1, 5-7, 10,] 58, 59, [62, 138, 145, 149, 151, 154,] and 157 [and 158];
 - (b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genome of the host cell;
 - (c) selecting for cells in which said vector has integrated into the genomes of said cells;
 - (d) isolating RNA from said selected cells;
 - (e) producing cDNA from said isolated RNA; and
 - (f) identifying a gene in said cDNA by isolating one or more cDNA molecules containing one or more nucleotide sequences from said vector.

Please add the following new claims:

--232. (New) A method for producing an expression product of an endogenous cellular gene, comprising:

- (a) introducing a vector comprising a transcriptional regulatory sequence and one or more amplifiable markers into a cell;
- (b) integrating said vector into the genome of said cell by non-homologous recombination;
- (c) over-expressing an endogenous gene or a portion thereof in said cell by upregulation of said gene by said transcriptional regulatory sequence;
- (d) screening said cell for over-expression of said endogenous gene;
- (e) culturing said cell under conditions in which said vector and said endogenous gene are amplified in said cell; and